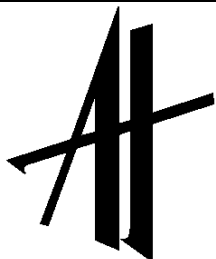


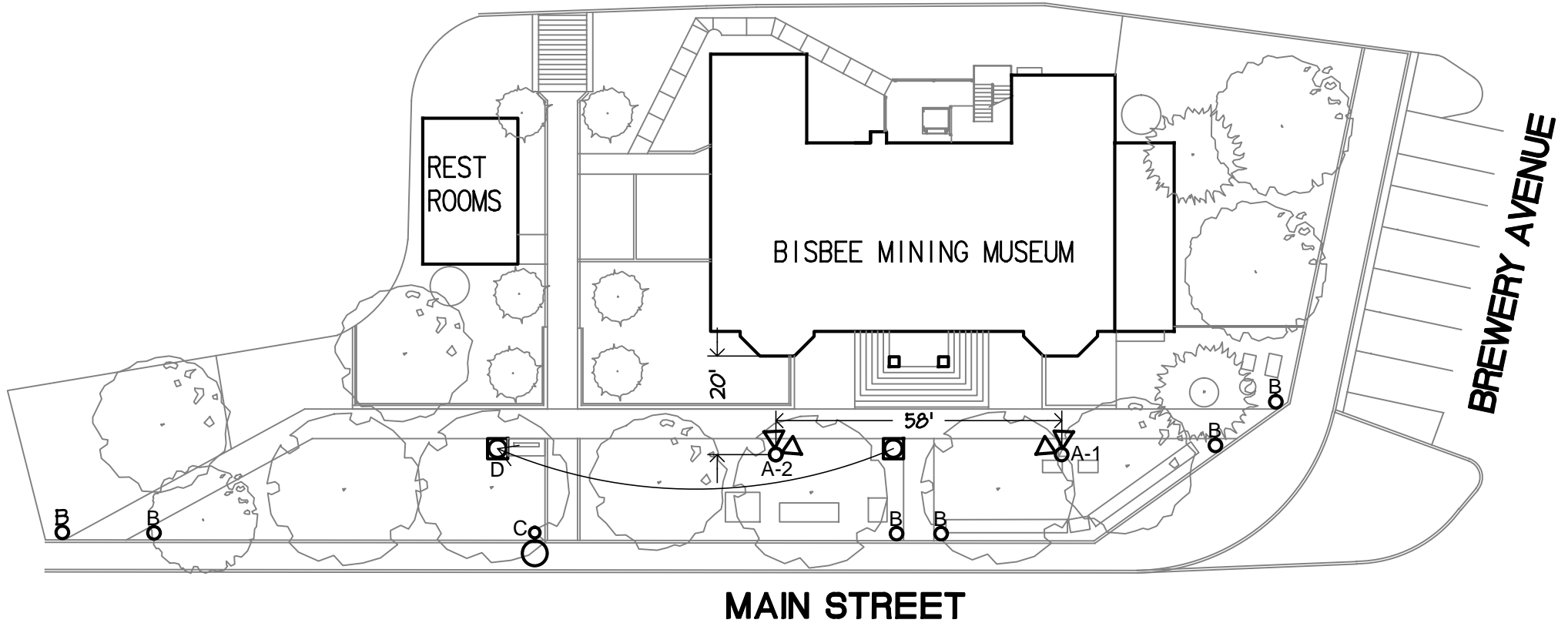
PROPOSED LIGHTING OF QUEEN PLAZA PARK & BISBEE MINING MUSEUM

September 7, 2018



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HOWELL AVENUE



LIGHT FIXTURE SCHEDULE

MRK	MOUNT	MANUFACTURER	DESCRIPTION
A-1 A-2	POLE	LUMENPULSE	TWO 25 FOOT HIGH POLES WITH 4 LUMENBEAM FIXTURES EACH FOCUSED ON THE MINING MUSEUM BUILDING. THE FIXTURES HAVE EYEBROW SHIELDS
B	BOLLARD	FIRST LIGHT	SIX SOLAR POWERED 3 FOOT HIGH BOLLARD LIGHT FIXTURES
C	POLE	LUMENPULSE	ONE 15 FOOT HIGH POLE WITH ONE ORNAMENTAL AREA LIGHT DIRECTED TO THE CROSSWALK. THE FIXTURE IS SHIELDED.
D	POLE	EXISTING	RELOCATE EXISTING POLE LIGHT TO THE RIGHT OF THE INFORMATION DISPLAY BOARD

PROPOSED LIGHTING OF QUEEN PLAZA PARK + BISBEE MINING MUSEUM



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520-432-5796
ahopperarch@gmail.com
September 7, 2018

FIXTURE SCHEDULE

Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
A1	1 Note 1	Lumenpulse	[...]	[...]	[...]	1	Absolute	[. . .]	134.58
		Lumenpulse	LBM-VOLTAGE-27K-FL-FINISH-DIM-UL-XXFT WITH LBMVS-FINISH-BK	DIMMABLE LUMENBEAM MEDIUM WITH VISOR MOUNTED ON 25' POLE	2700K LED	1	Absolute	0.8	28.4
		Lumenpulse	LBM-VOLTAGE-27K-FL-FINISH-DIM-UL-XXFT WITH LBMVS-FINISH-BK	DIMMABLE LUMENBEAM MEDIUM WITH VISOR MOUNTED ON 25' POLE	2700K LED	1	Absolute	0.8	28.4
		Lumenpulse	LBM-VOLTAGE-27K-FL-FINISH-DIM-UL-XXFT WITH LBMVS-FINISH-BK	DIMMABLE LUMENBEAM MEDIUM WITH VISOR MOUNTED ON 25' POLE	2700K LED	1	Absolute	0.8	28.4
		Lumenpulse	LBM-VOLTAGE-27K-FL-FINISH-DIM-UL-XXFT WITH LBMVS-FINISH-BK AND LBMLSLA-FINISH	DIMMABLE LUMENBEAM MEDIUM WITH VISOR AND FIELD ADJUSTABLE LINEAR SPREAD LENS MOUNTED ON 25' POLE	2700K LED	1	Absolute	0.4	49.38
A2	1 Note 1	Lumenpulse	[...]	[...]	[...]	1	Absolute	[. . .]	134.58
		Lumenpulse	LBM-VOLTAGE-27K-FL-FINISH-DIM-UL-XXFT WITH LBMVS-FINISH-BK	DIMMABLE LUMENBEAM MEDIUM WITH VISOR MOUNTED ON 25' POLE	2700K LED	1	Absolute	0.8	28.4
		Lumenpulse	LBM-VOLTAGE-27K-FL-FINISH-DIM-UL-XXFT WITH LBMVS-FINISH-BK AND LBMLSLA-FINISH	DIMMABLE LUMENBEAM MEDIUM WITH VISOR AND FIELD ADJUSTABLE LINEAR SPREAD LENS MOUNTED ON 25' POLE	2700K LED	1	Absolute	0.4	49.38
		Lumenpulse	LBM-VOLTAGE-27K-FL-FINISH-DIM-UL-XXFT WITH LBMVS-FINISH-BK	DIMMABLE LUMENBEAM MEDIUM WITH VISOR MOUNTED ON 25' POLE	2700K LED	1	Absolute	0.8	28.4
		Lumenpulse	LBM-VOLTAGE-27K-FL-FINISH-DIM-UL-XXFT WITH LBMVS-FINISH-BK	DIMMABLE LUMENBEAM MEDIUM WITH VISOR MOUNTED ON 25' POLE	2700K LED	1	Absolute	0.8	28.4
B	8	First Light Technologies	PLB-102-FINISH-ASM-WW-00-04	SOLAR POWERED BOLLARD WITH ASYMMETRIC OPTICS	3000K LED	1	258	0.7	0
C	1 Note 1	Lumenpulse	ALG7200-VOLTAGE-CSL-S60-30K-CRI 70-4-FINISH-DIM-SP MOUNTED AT 15' AFG WITH CS4 ARM	DECORATIVE BELL SHAPED FIXTURE WITH TYPE 4 OPTICS	3000K LED	1	4999	0.9	55
D	1	Existing			UNKNOWN	1	Unknown	Unknown	Unknown

Note 1: Poles to be supplied by Lumenpulse.

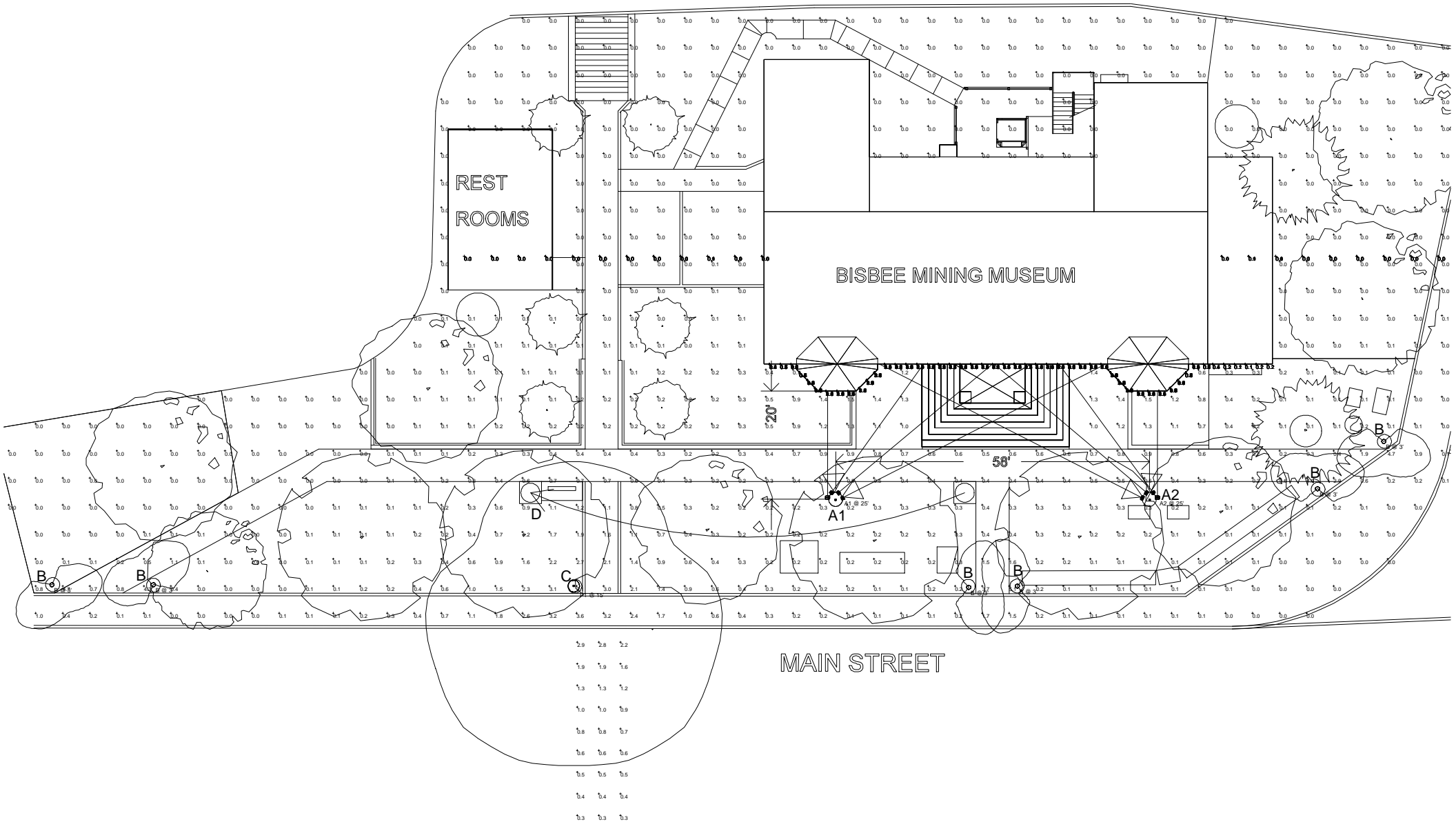
Note 2: The project has been designed with the light output of the fixtures specified. Substitutes will not be accepted.

Note 3: Contact for Lumenpulse fixtures: Chris Duffner, LC; RC Lurie Company | Lighting Products & Control Solutions; Office: 520-561-8232, Cell: 520-360-1844; email: CDuffner@rclurie.co; website: rclurie.com.

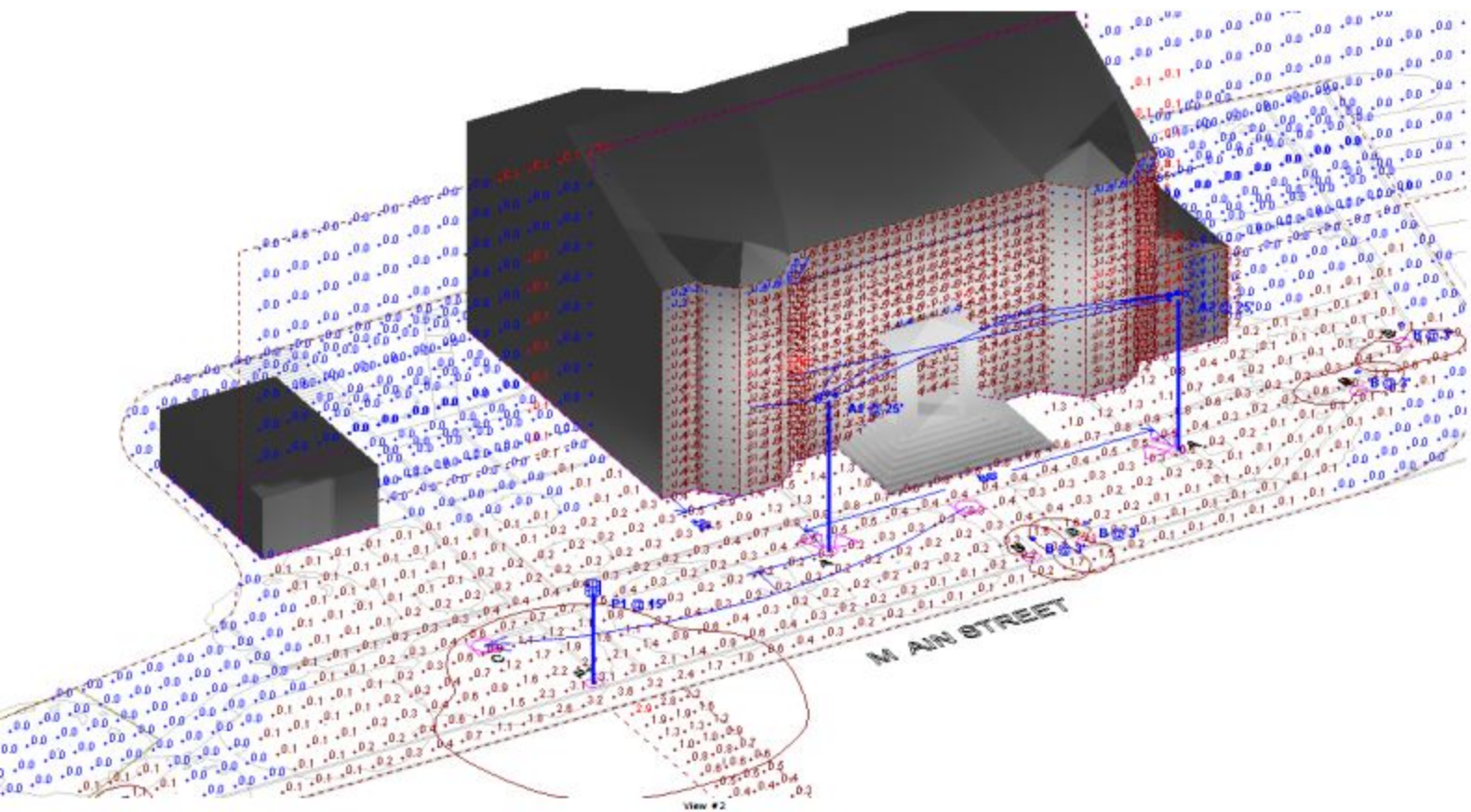
Note 4: Contact for First Light Technologies: Justin Taverna, VP Business Development; +1.250.812.0179 (Mobile), +1.844.279-8754 (Toll Free); email: justin@firstlighttechnologies.com; website: firstlighttechnologies.com.

LIGHTING OF QUEEN PLAZA PARK & THE BISBEE MINING MUSEUM BISBEE, ARIZONA

HOWELL AVENUE



LIGHT DISTRIBUTION DIAGRAM

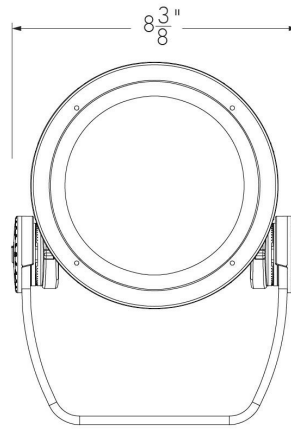


View #2

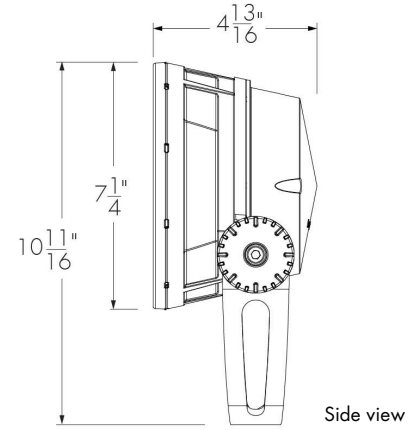
LIGHT FIXTURE 'A'

Project Name _____ Qty _____

Type _____ Catalog / Part Number _____



Front view



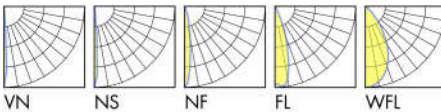
Side view

Photometric Summary

4000K	Delivered output (lm)	Intensity (peak cd)
VN	1,754	75,278
NS	1,552	56,914
NF	1,484	10,878
FL	1,428	4,003
WFL	1,370	1,312

Photometric performance is measured in compliance with IESNA LM-79-08.

Optics



Control

ON/OFF 0-10V DALI DMXrdm

Rating



Description

The Lumenbeam Medium is a high-performance, 28W luminaire for solving numerous interior and exterior challenges such as facades, columns, trees or other architectural and landscape features. It offers a flexible package of options: a choice of optics for flood or accent lighting; a number of color temperatures and colors; various mounting options, accessories, spread lenses and controls.

Features

Color and Color Temperature	2200K, 2700K, 3000K, 3500K, 4000K, 5700K, Red, Green, Blue
Optics (nominal distribution)	6°, 10°, 20°, 40°, 60°
Optical Option	Linear spread lens horizontal distribution, Linear spread lens vertical distribution
Options	Short Yoke, 3G ANSI C136.31 Vibration Rating for bridge applications, Corrosion-resistant coating for hostile environments
Power Consumption	28 W
Warranty	5-year limited warranty

Performance

Delivered Output	1,754 lm (4000K, VN optic)
Delivered Intensity	75,278 cd at nadir (4000K, VN optic)
Illuminance at Distance	Minimum 1 fc at 274 ft distance (4000K, VN optic)
Color Consistency	2 SDCM
Color Rendering	CRI 80+
Lumen Maintenance	L70 120,000 hrs (Ta 25 °C)

SOLAR POWERED LED BOLLARD LIGHT FIXTURE 'B'

Project: _____

Type: _____

Quantity: _____



The PLB series solar powered LED bollard is ideal for architectural and commercial pathway applications. The self-contained, stylish, contemporary design combined with high quality construction and unequalled solar powered performance make the PLB series an excellent fit where quality lighting is required.

Utilizing solar power and LED lighting the PLB bollards are fully self contained and offer significant benefits over typical wired bollards:

- Low installed costs and minimal site impacts with no trenching, cabling or wiring
- Minimal ongoing costs with no electricity bills or bulbs to change
- Immune from power outages
- A sustainable choice without recurring carbon emissions

All of our solar powered lights are enabled by our innovative Solar Lighting Controller (SLC). The SLC in each light is "self-learning" and allows the lights to predictively adapt to their surroundings, providing a level of lighting performance and reliability unavailable in other solar lighting products.

TECHNICAL SPECIFICATIONS

- Solar Module:**
- High impact, UV resistant encapsulation
 - High-efficiency mono-crystalline cells
 - Integrated into bollard housing
 - Used for day/night detection (no photocell required)

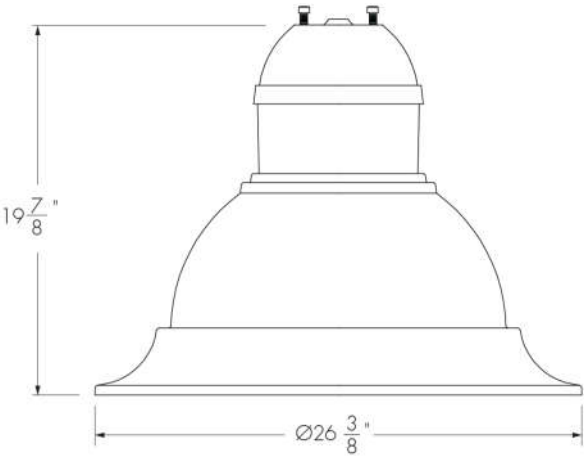
- Solar Lighting Controller (SLC):**
- High efficiency Maximum Power Point Tracking (MPPT) charge controller
 - Micro-controller based technology
 - Includes high-efficiency LED driver
 - Integrated into bollard housing
 - Designed to automatically manage lighting performance based on environmental conditions and lighting requirements
 - Patent pending

- Battery:**
- High performance Lithium (LiFePO₄)
 - Exceptional 8 – 10 year life cycle
 - High temperature tolerance
 - Contained within bollard post
 - Designed for easy battery changes when required

- LEDs and Optics:**
- High output Cree LEDs
 - 100,000 hour L70 lifetime
 - Warm (3000K) and neutral (4500K) white color temperatures available
 - Type III and Type V high efficiency, cut-off optics
 - Typical lumen output of 200 - 300 lumens

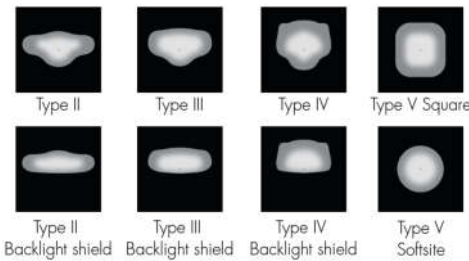
- Mechanical Construction:**
- Cast, low copper aluminum housing
 - Extruded, low copper aluminum post
 - Stainless fasteners with security fastener option
 - High strength mounting base
 - Architectural grade, super durable, TGIC powder coat
 - Four standard colors with custom colors available

- Factory Set Lighting Profiles:**
- On at dusk, off at dawn
 - On at dusk, turn off after 6 hours
 - On at dusk, dim to 30% after 6 hours till dawn
 - On at dusk, off after 5 hours, on 1 hour before dawn
 - On at dusk, dim to 30% after 5 hours, on 1 hour before dawn



Front view
ALG7200 housing shown

Distributions



Housing options



Certifications



Description

The Allegra Medium is a durable, stylish luminaire for urban lighting applications, including pedestrian plazas, residential streets and collector roads. Offering a choice of outputs, color temperatures, and distributions, the Allegra Medium is elegance personified.

Physical

Lens	Clearsite lens, Softsite lens
Housing Material	Die cast low copper 360 aluminum alloy
Weight	Up to 35 lbs
EPA	Up to 1.13 sq ft

Performance

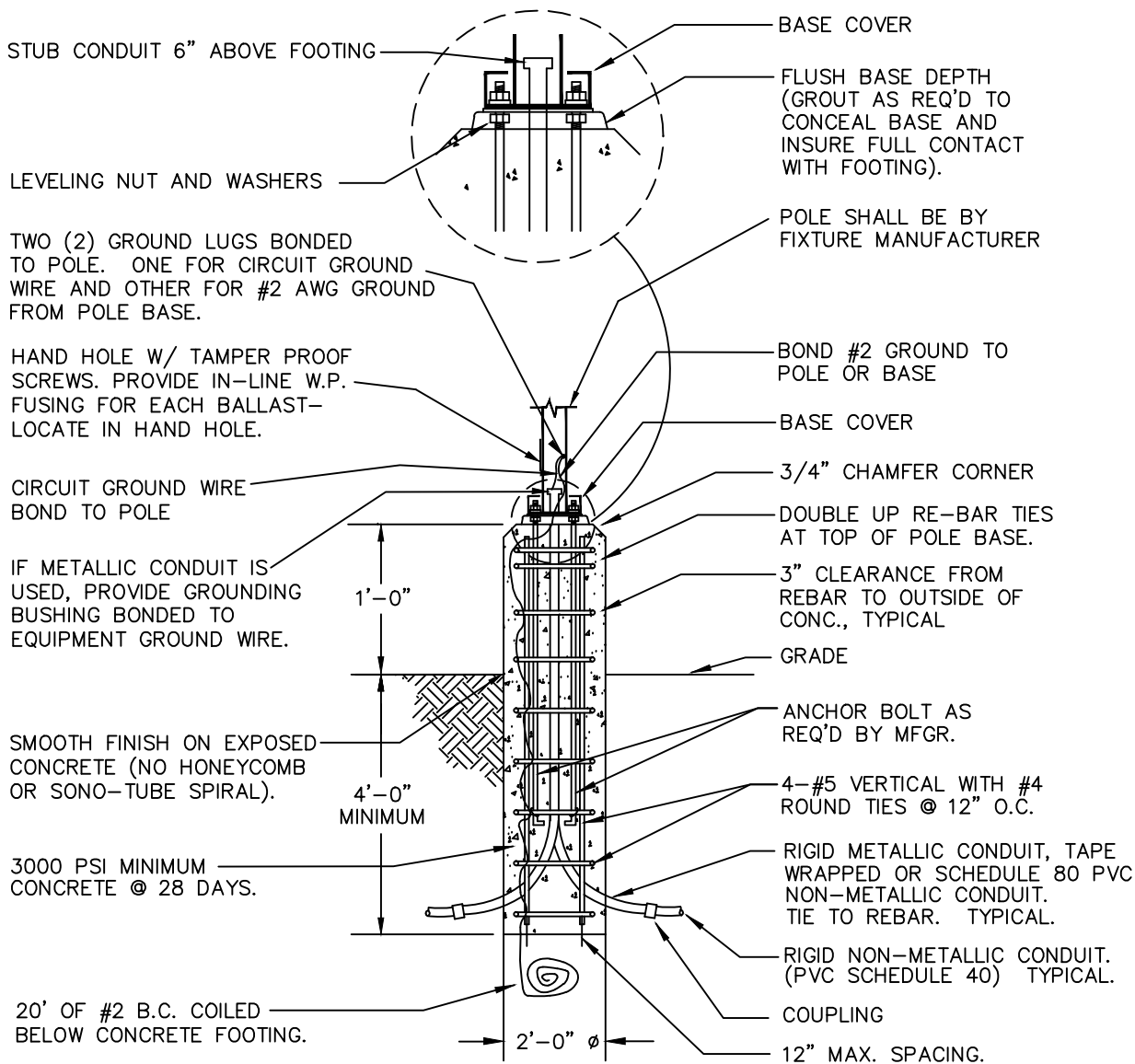
Output	Minimum 3000lm / Maximum 17000lm
Color Rendering	3 SDCM at CRI 70+ and 2 SDCM at CRI 80+
Lumen Maintenance	TM-21 L70 527,000 hrs (projected, Ta 77 °F), 36,000 hrs (reported, Ta 77 °F)

Features

Color and Color Temperature	2200K, 2700K, 3000K, 3500K, 4000K, 5700K
Distributions	Type II, Type III or Type IV (with or without backlight shield), Type 5 square and Type V Softsite
Options	Surge protector
Mounting Options	Top mounted, Side top mounted
Warranty	5-year limited warranty

Electrical and control

Voltage	120 volts, 240 volts, 277 volts, 347 volts, 480 volts
Control	On/Off control, 0-10V dimming



FIXTURE POLE & BASE DETAIL

N.T.S.

ELECTRICAL SPECIFICATIONS

1. ENTIRE ELECTRICAL INSTALLATION SHALL COMPLY WITH 2014 EDITION OF NFPA-70, NATIONAL ELECTRICAL CODE (NEC) AS ADOPTED BY THE CITY OF BISBEE, ARIZONA AND ALL OTHER LOCAL CODES AND ORDINANCES PERTAINING TO ELECTRICAL AND LIGHTING INSTALLATION. MATERIALS AND EQUIPMENT SHALL BE NEW AND LISTED IN ACCORDANCE WITH THE REQUIREMENTS OF NEC ARTICLE 110.3.
2. CONTRACTOR SHALL APPLY FOR AND OBTAIN PERMITS FOR THE ELECTRICAL WORK.
3. CONTRACTOR SHALL INVESTIGATE AVAILABLE POWER SOURCES IN THE PARK, REMOVE EXISTING SCULPTURE LIGHTS AND WIRING, AND EXTEND EXISTING WIRING AND CONDUITS AS REQUIRED TO NEW FIXTURES.